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**DESCRIPTION: Combined Modification Document -
Maintenance Note 32,
TCTO 31P1-4-108-595,
CSU Configuration Standardization**

DATE OF ISSUE: March 8, 2001

QUANTITY OF ISSUE: EACH

CSU CONFIGURATION STANDARDIZATION

DOPPLER METEOROLOGICAL RADAR WSR-88D



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NWS APPROVAL:

 _____ Date 3/8/01
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Chief, Maintenance, Logistics,
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DoD APPROVAL:

BY ORDER OF THE SECRETARY OF THE AIR FORCE

MICHAEL E. RYAN, General, USAF
Chief of Staff

 _____ Date 3/12/01
Edward L. Berkowitz, Chief
Program Branch
Radar Operations Center
TOMA

1. SUBJECT

CSU CONFIGURATION STANDARDIZATION.

2. PURPOSE

This maintenance note is required to standardize the Radar Data Acquisition (RDA) to Radar Product Generation (RPG) link T1 Channel Service Unit (CSU) configurations. The RPG CSUs will be replaced by a future modification, commonly referred to as the Open RPG. The replacement ORPG box will integrate a T1 CSU into a Local Area Network to Wide Area Network (LAN/WAN) converter. The CSU portion of this box only supports several fixed configurations, so standardized CSU settings will make the equipment easier to integrate.

For additional information concerning this document, contact the ROC Hotline, Norman, OK; phone number: (800) 643-3363 or (405) 366-2980 or by e-mail at NEXRAD.Hotline@noaa.gov. An electronic copy of this document can be found at the following internet address:
www.roc.noaa.gov/ssb/sysdoc/techman/tmlinks.asp

3. SITES AFFECTED

See [ATTACHMENT 2](#).

4. ESTIMATED COMPLETION DATE

This modification must be completed and reported no later than 60 days after receipt of this document.

5. EQUIPMENT AFFECTED

Radar Data Acquisition.
Radar Product Generation.

6. SPARES AFFECTED

Not applicable.

7. MODIFICATION ACCOMPLISHED BY

Site electronics technicians will perform this maintenance. Commercial and Private T1 Sites: Two technicians are required to perform this action. One technician at the RDA and one at the RPG.

MLOS Sites: One or two technicians are required to perform this action depending on the number and location of CSUs.

8. MATERIAL REQUIRED

Not applicable.

9. SOURCE OF MATERIALS

Not applicable.

10. SPECIAL TOOLS AND TEST EQUIPMENT REQUIRED

Not applicable.

11. TIME AND PERSONNEL REQUIRED

Work Phases	Work-hours
Unpacking	0.0
Disassembly	0.0
Installation	0.0
Assembly	0.0
Operational Check	0.25
Total Work-hours	0.25

12. DOCUMENTS AFFECTED

- a. Maintenance Instructions, Radar Data Acquisition, dated 1 May 1996
NWS: EHB 6-510, Change 7
DoD: AF TO 31P1-4-108-152, Change 7
FAA: TI 6345.1 V7, Change 7
- b. Maintenance Instructions, Radar Product Generation, dated 15 July 1998
NWS: EHB 6-520, Change 6
DoD: AF TO 31P1-4-108-42, Change 6
FAA: TI 6345.1 V11, Change 6
- c. Maintenance Instructions, Wideband Communications, dated 15 August 1992
NWS: EHB 6-540, Change 6
DoD: AF TO 31P1-4-108-82, Change 6
FAA: TI 6345.1 V19, Change 6

13. VERIFICATION STATEMENT

This modification was successfully installed at the Radar Operations Center.

14. DISPOSITION OF REMOVED AND REPLACED PARTS/MATERIALS

Not applicable.

15. PROCEDURES

See [ATTACHMENT 1](#).

16. FAA DISTRIBUTION

Not applicable.

17. CHANGES TO TABLE OF CONTENTS (FAA)

Not applicable.

18. RECOMMENDATIONS FOR CHANGES (FAA)

Not applicable.

19. REPORTING INSTRUCTIONS

a. NWS

Report completed modification on WS Form A-26, Engineering Management Reporting System Maintenance Record, according to the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), part 2 and Appendix G. Include the following information on the WS Form A-26:

- An Equipment Code of RDA in Block 7.
- The appropriate serial number in Block 8.
- A Mod No. of M32 in Block 17a.

See ATTACHMENT 4 for a completed sample of WS Form A-26.

b. DoD

Update the AFTO Form 95 to show TCTO compliance. Report TCTO compliance in accordance with TO 00-20-2, Table 3-10, Rule 9.

Complete [ATTACHMENT 3](#), and return the information to the ROC by one of the four methods below:

- | | |
|---------------------|---|
| (1) Mail Address: | Program Branch, Retrofit Management Team
WSR-88D Radar Operations Center
3200 Marshall Ave., Suite 101
Norman, Oklahoma 73072-8028 |
| (2) Fax Number: | (405) 366-6553
ATTN: Retrofit Management Team |
| (3) E-mail Address: | NEXRAD.Logistics@noaa.gov |
| (4) Web Version: | http://www.roc.noaa.gov/ssb/logistics/completion.asp |

ATTACHMENT 1

CSU STANDARDIZATION PROCEDURES

Tool Required

Small slotted screwdriver

NOTE

Depending upon site configuration for the RPG (2 bay or 3 bay cabinets) the CSU 21A17 is located above the VME and 22A4 is located below the modem nest.

1. Perform the following steps to standardize the CSU dip switch settings:
 - a. With one technician at the RDA and one at the RPG, locate the CSUs. RDA sites: The CSU (5A18) is located directly above the RDA MMI. MLOS Sites: The CSU locations are site dependent.
 - b. Note and record the original DIP switch setting.
 - c. Using [figure 1](#), and the effectivity list in [ATTACHMENT 2](#), set the dip switches on the CSU.
 - d. Commercial T1 sites: If the type of line encoding (AMI or B8ZS) is not known, reference the local file copy of the telecommunications service order, DOC Form 37-1. If the file copy cannot be located, please call the ROC Hotline.
2. Verify connectivity between the RDA and the RPG. If problems exist, return the dip switches to their original state and contact the ROC Hotline.

ATTACHMENT 1 (Continued)

CSU STANDARDIZATION PROCEDURES

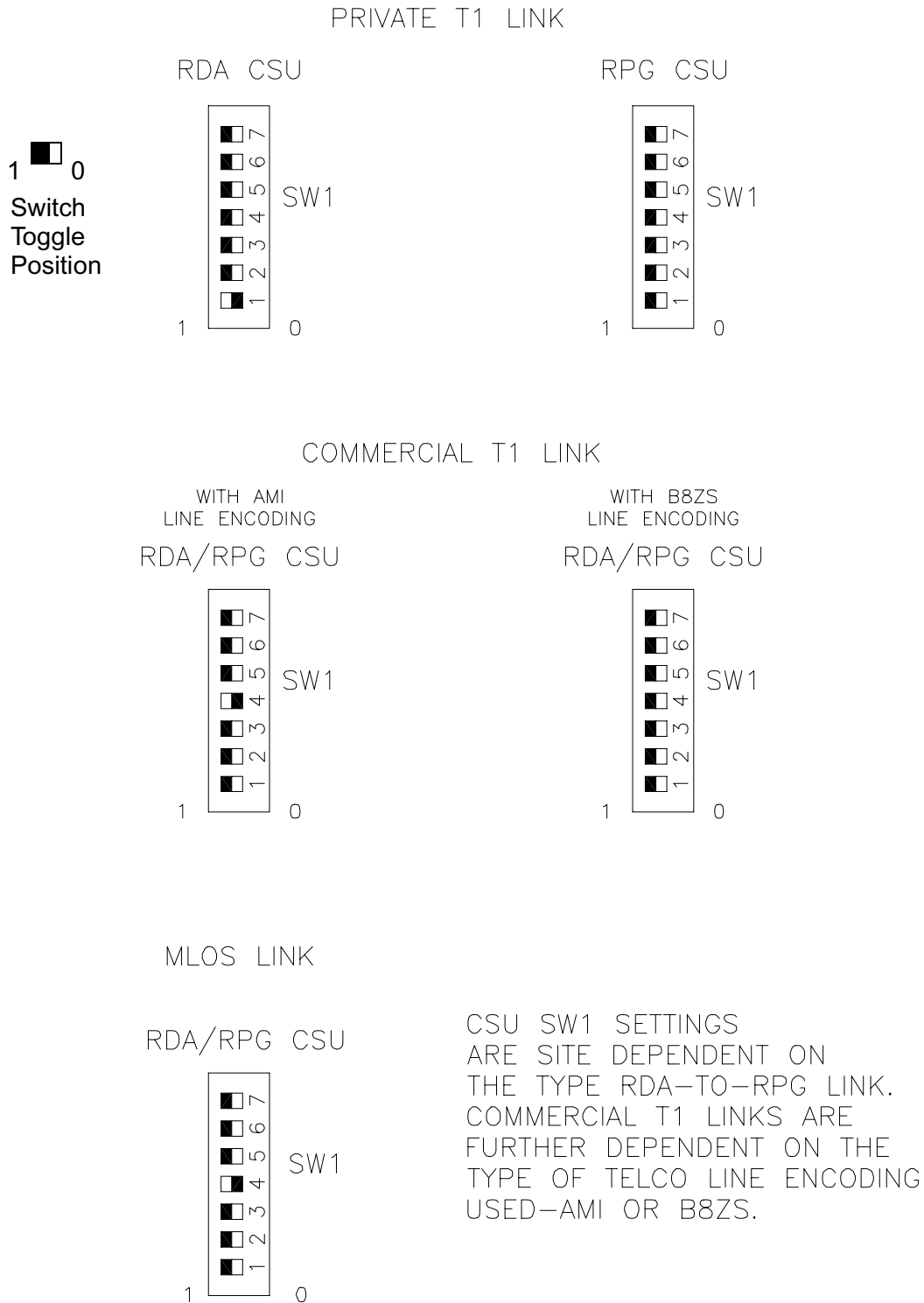


Figure 1 CSU DIP Switch Configurations

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ATTACHMENT 2

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
Eastern Region				
ALBANY	EAST BERNE, NY	RDA/RPG COMMERCIAL T1	ENX	WN9518
BINGHAMTON	BINGHAMTON, NY	RDA/RPG COMMERCIAL T1	BGM	WN9515
BOSTON	TAUNTON, MA	RDA/RPG PRIVATE T1	BOX	WN9509
BUFFALO	BUFFALO, NY	RDA/RPG COMMERCIAL T1	BUF	WN9528
BURLINGTON	COLCHESTER, VT	RDA/RPG COMMERCIAL T1	CXX	WN9617
CARIBOU	HOULTON, ME	RDA/RPG COMMERCIAL T1	CBW	WN9712
CHARLESTON, SC	GRAYS, SC	RDA/RPG COMMERCIAL T1	CLX	WN9208
CHARLESTON, WV	CHARLESTON, WV	RDA/RPG PRIVATE T1	RLX	WN9414
CINCINNATI	WILMINGTON, OH	RDA/RPG PRIVATE T1	ILN	WN9710
CLEVELAND	CLEVELAND, OH	RDA/RPG PRIVATE T1	CLE	WN9524
COLUMBIA	WEST COLUMBIA, SC	RDA/RPG PRIVATE T1	CAE	WN9310
PHILADELPHIA	FORT DIX, NJ	RDA/RPG COMMERCIAL T1	DIX	WN9950
PORTLAND, ME	GRAY, ME	RDA/RPG COMMERCIAL T1	GYX	WN9938
RALEIGH/DURHAM	CLAYTON, NC	RDA/RPG COMMERCIAL T1	RAX	WN9306
ROANOKE	ROANOKE, VA	RDA/RPG COMMERCIAL T1	FCX	WN9954
STATE COLLEGE	STATE COLLEGE, PA	RDA/RPG COMMERCIAL T1	CCX	WN9925

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ATTACHMENT 2 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
WILMINGTON	SHALLOTTE, NC	RDA/RPG COMMERCIAL T1	LTX	WN9301

Southern Region

ALBUQUERQUE	ALBUQUERQUE, NM	RDA/RPG COMMERCIAL T1	ABX	WP9365
ATLANTA	PEACHTREE CITY, GA	RDA/RPG PRIVATE T1	FFC	WP9219
BIRMINGHAM	ALABASTER, AL	RDA/RPG COMMERCIAL T1	BMX	WP9957
CORPUS CHRISTI	CORPUS CHRISTI, TX	RDA/RPG PRIVATE T1	CRP	WP9251
DALLAS/FT WORTH	FORT WORTH, TX	RDA/RPG COMMERCIAL T1	FWS	WP9259
JACKSON, MS	JACKSON, MS	RDA/RPG PRIVATE T1	JAN	WP9235
LITTLE ROCK	NORTH LITTLE ROCK, AR	RDA/RPG PRIVATE T1	LZK	WP9340
LUBBOCK	LUBBOCK, TX	RDA/RPG COMMERCIAL T1	LBB	WP9933
MEMPHIS	MILLINGTON NAS, TN	RDA/RPG COMMERCIAL T1	NQA	WP9334
MIAMI	MIAMI, FL	RDA/RPG COMMERCIAL T1	AMX	WP9918
NORMAN	MIDWEST CITY, OK	RDA/RPG MLOS	TLX	WP9921
NORTHEAST ALABAMA	HYTOP, AL	RDA/RPG COMMERCIAL T1	HTX	WP9913
SAN ANGELO	SAN ANGELO, TX	RDA/RPG PRIVATE T1	SJT	WP9263
TALLAHASSEE	TALLAHASSEE, FL	RDA/RPG COMMERCIAL T1	TLH	WP9214
TAMPA	RUSKIN, FL	RDA/RPG PRIVATE T1	TBW	WP9961
TULSA	INOLA, OK	RDA/RPG COMMERCIAL T1	INX	WP9356

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ATTACHMENT 2 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
WESTERN ARKANSAS	CHAFFEE RIDGE, AR	RDA/RPG COMMERCIAL T1	SRX	WP9356

Central Region

BISMARCK	BISMARCK, ND	RDA/RPG PRIVATE T1	BIS	WR9764
DENVER	FRONT RANGE AP, CO	RDA/RPG COMMERCIAL T1	FTG	WR9469
DES MOINES	JOHNSTON, IA	RDA/RPG PRIVATE T1	DMX	WR9546
DETROIT	WHITE LAKE, MI	RDA/RPG PRIVATE T1	DTX	WR9954
DULUTH	DULUTH, MN	RDA/RPG PRIVATE T1	DLH	WR9745
FARGO/GRAND FORKS	GRAND FORKS, ND	RDA/RPG COMMERCIAL T1	MVX	WR9750
GRAND ISLAND	BLUE HILL, NE	RDA/RPG COMMERCIAL T1	UEX	WR9552
GRAND JUNCTION	GRAND JUNCTION, CO	RDA/RPG COMMERCIAL T1	GJX	WR9476
GRAND RAPIDS	GRAND RAPIDS, MI	RDA/RPG PRIVATE T1	GRR	WR9635
INDIANAPOLIS	INDIANAPOLIS, IN	RDA/RPG PRIVATE T1	IND	WR9438
JACKSON, KY	JACKSON, KY	RDA/RPG PRIVATE T1	JKL	WR9956
LINCOLN	LINCOLN, IL	RDA/RPG PRIVATE T1	ILX	WR9436
LOUISVILLE	FORT KNOX, KY	RDA/RPG COMMERCIAL T1	LVX	WR9423
MILWAUKEE	DOUSMAN, WI	RDA/RPG PRIVATE T1	MKX	WR9965
MINNEAPOLIS	CHANHASSEN, MN	RDA/RPG COMMERCIAL T1	MPX	WR9658
NORTH PLATTE	NORTH PLATTE, NE	RDA/RPG COMMERCIAL T1	LNK	WR9562

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ATTACHMENT 2 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
NORTHERN INDIANA	NORTH WEBSTER, IN	RDA/RPG PRIVATE T1	IWX	WR9534
PUEBLO	PUEBLO, CO	RDA/RPG COMMERCIAL T1	PUX	WR9464
RAPID CITY	NEW UNDERWOOD, SD	RDA/RPG COMMERCIAL T1	UDX	WR9662
SPRINGFIELD	SPRINGFIELD, MO	RDA/RPG PRIVATE T1	SGF	WR9440
TOPEKA	TOPEKA, KS	RDA/RPG COMMERCIAL T1	TWX	WR9456

Western Region

BILLINGS	BILLINGS, MT	RDA/RPG COMMERCIAL T1	BLX	WT9677
BOISE	BOISE, ID	RDA/RPG COMMERCIAL T1	CBX	WT9681
CEDAR CITY	CEDAR CITY, UT	RDA/RPG COMMERCIAL T1	ICX	CONCDC
ELKO	ELKO, NV	RDA/RPG COMMERCIAL T1	LRX	WT9903
EUREKA (BUNKER HILL)	EUREKA, CA	RDA/RPG COMMERCIAL T1	BHX	WT9594
FLAGSTAFF	FLAGSTAFF, AZ	RDA/RPG COMMERCIAL T1	FSX	WT9375
GREAT FALLS	GREAT FALLS, MT	RDA/RPG PRIVATE T1	TFX	WT9950
LAS VEGAS	LAS VEGAS, NV	RDA/RPG COMMERCIAL T1	ESX	WT9386
LOS ANGELES	LOS ANGELES, CA	RDA/RPG MLOS	VTX	WT9295
MEDFORD	MEDFORD, OR	RDA/RPG MLOS	MAX	WT9597
MISSOULA	MISSOULA, MT	RDA/RPG MLOS	MSX	WT9773
PHOENIX	PHOENIX, AZ	RDA/RPG COMMERCIAL T1	IWA	WT9278

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NEXRAD Site Name	City, ST	EQP	SID	ORG Code
POCATELLO	SPRINGFIELD, ID	RDA/RPG COMMERCIAL T1	SFX	WT9578
PORTLAND, OR	PORTLAND, OR	RDA/RPG COMMERCIAL T1	RTX	WT9698
RENO	NIXON, NV	RDA/RPG COMMERCIAL T1	RGX	WT9488
SACRAMENTO	DAVIS, CA	RDA/RPG COMMERCIAL T1	DAX	WT9914
SALT LAKE CITY	SALT LAKE CITY, UT	RDA/RPG COMMERCIAL T1	MTX	WT9932
SAN DIEGO	SAN DIEGO, CA	RDA/RPG COMMERCIAL T1	NKX	WT9918
SAN FRANCISCO	LOS GATOS, CA	RDA/RPG COMMERCIAL T1	MUX	WT9933
SANTA ANA MTS	SANTA ANA MOUNTAINS, CA	RDA/RPG COMMERCIAL T1	SOX	WT9918
SEATTLE	EVERETT, WA	RDA/RPG COMMERCIAL T1	ATX	WT9922
TUCSON	TUCSON, AZ	RDA/RPG COMMERCIAL T1	EMX	WT9274
YUMA	YUMA, AZ	RDA/RPG COMMERCIAL T1	YUX	WT9278

DoD

KEESLER AFB MNTC TRNG A	KEESLER AFB, MS	RDA/RPG PRIVATE T1	BIX	FE3010
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ATTACHMENT 3

CSU STANDARDIZATION COMPLETION RETURN FORM

Site Name: _____

Site Identifier: _____

Total Time to Complete this Maintenance: _____

Technician's Name(s): _____

Technician's Phone Number: _____

Date Completed: _____

Problem(s) Encountered: _____

Upon completion of this form, return the information to the ROC by one of the four methods below:

1. Mailing Address: Program Branch, Retrofit Management Team
WSR-88D Radar Operations Center
3200 Marshall Ave., Suite 101
Norman, OK 73072-8028
2. FAX Number: (405) 366-6553
ATTN: Retrofit Management Team
3. E-mail Address: NEXRAD.Logistics@noaa.gov
4. Web Version: <http://www.roc.noaa.gov/ssb/logistics/completion.asp>

WS HQ USE ONLY		WS FORM A-26 (4/94) Supersedes WS Form A-23 and WS Form 11-28, which are obsolete			U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE			Document Number G 49978			
General Information		1. Open Date 03/10/01	Time 0900	2. Initials DKR	3. Response Priority (check one) <input type="radio"/> Immediate <input type="radio"/> Routine <input checked="" type="radio"/> Not Applicable		4. Close Date 03/10/01	Time 0930			
5. Description STANDARDIZE CSU CONFIGURATION I.A.W. MAINT NOTE 32											
Equipment Information		6. Station ID MQT	7. Equipment Code RDA	8. Serial Number AA36118701	9. TM E	10. AT M	11. How Mal. 999				
1 2. EQUIPMENT OPERATIONAL STATUS TIMES		a. Fully Operational <input type="checkbox"/>	b. Logistics Delay <input type="checkbox"/>	c. Partly Operational <input type="checkbox"/>	d. All Other <input type="checkbox"/>	e. Not Operational <input type="checkbox"/>		f. All Other 0:30			
13. Parts Failure Information											
Block #	a. ASN	b.	c. MSN	d. How Mal.	e. How Mal.	f. Maint. Hrs.	g. Staff Hrs.				
1							a. Routine				
2							b. Non-routine				
3							c. Travel				
4							d. Misc.		0:30		
5							e. Overtime				
14. Work Load Information											
15. Maintenance Comments RESET DIP SWITCHES; COMPLETED MAINTENANCE NOTE											
16. Initials DKR											
17. SPECIAL PURPOSE REPORTING		a. Mod. No. M32	b. Mod./Act./Deact. Date 03/10/01	c.	d.	e.					
18. CONFIGURATION MGMT. REPORTING (use as directed)		a. Block #	b. Manufacturer's Part No. of New Part			c. Revision No. of New Part					